UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/840,945	04/24/2001	JC Ferguson	CBM-001.02	5616

25181   7590   01/10/2005

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EXAMINER
PHILLIPS, HASSAN A

ART UNIT	PAPER NUMBER
2151	

DATE MAILED: 01/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _26 October 2004_.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-34 and 36-38_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-34 and 36-38_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

    1.☐ Certified copies of the priority documents have been received.

    2.☐ Certified copies of the priority documents have been received in Application No. _____.

    3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
    application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. This action is in response to amendments received on October 26, 2004.

Claim Rejections - 35 USC § 112

1. After consideration of the amendments made to claim 26, the Examiner has

withdrawn the rejection of the claim under 35 U.S.C. 112, 2nd paragraph.

Response to Arguments

1. Applicant's arguments with respect to claims 1-34, 36-38, have been

considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set
forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior
art are such that the subject matter as a whole would have been obvious at the time the invention was made to
a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be
negatived by the manner in which the invention was made.

2. Claims 1-34, are rejected under 35 U.S.C. 103(a) as being unpatentable over

Sumimoto, U.S. Patent 5,522,070, in view of Colby et al. (hereinafter Colby), U.S.

Patent 6,006,264, (supplied by Applicant).

3. In considering claim 1, Sumimoto teaches a method for scheduling data flows

among processors, comprising: receiving a request for processing, (col. 6, lines 48-55);

identifying a processor group (30) to process the request, the processor group including

at least one processor (31, 32, 33...), (col. 6, lines 1-4); consulting a flow schedule

associated with the identified processor group, and, transferring the request to at least

one processor in the identified processor group based on the associated flow schedule,

(col. 10, lines 9-13).

Although the method taught by Sumimoto shows substantial features of the

claimed invention, if fails to expressly teach: in identifying a processor group, identifying

a processor group hosting at least one application required to process the request.

Nevertheless, in a similar field of endeavor, Colby teaches a method and system

for directing a flow between a client and a server comprising: identifying if content is

fully replicated among servers in a server group (150), and if not, performing extra steps

to handle a request for content from a server in the server group, (col. 7, lines 29-36).

Thus given the teachings of Colby, it would have been apparent to one of

ordinary skill in the art to modify the teachings of Sumimoto with Colby to show

identifying a processor group hosting at least one application required to process the

request. As suggested in the teachings of Colby, identifying a group where applications

were replicated among individual processors would be beneficial. For a method such

as that taught by Sumimoto, this would provide an efficient means for servicing a

request for an application since extra steps needed to identify a candidate processor

would be bypassed, Colby, col. 7, lines 29-36.

4. In considering claim 2, although the method taught by Sumimoto shows

substantial features of the claimed invention, if fails to teach: in receiving a request for

processing, including receiving a data flow from a network.

Nevertheless, in a similar field of endeavor, Colby teaches a method and system

for directing a flow between a client and a server comprising: in receiving a request for

processing, including receiving a data flow from a network, (col. 2, lines 48-53).

Thus given the teachings of Colby, it would have been apparent to one of

ordinary skill in the art to modify the teachings of Sumimoto with Colby to show

receiving a request for processing including receiving a data flow from a network. This

would enhance the method taught by Sumimoto by allowing multiple users to take

advantage of the method by sending their requests and data flows over a network. This

also would simplify the functionality of the client devices from which the request would

be sent. See Colby, col. 3, lines 29-67, and col. 4, lines 1-5.

5. In considering claim 3, it is implicit in the teachings of Sumimoto that

consulting a flow schedule comprises consulting a flow schedule vector. See col. 10,

lines 9-13.

6. In considering claim 4, Sumimoto further teaches transferring the request based on sequentially moving among processors in the consulted flow schedule. See col. 10, lines 16-34.

7. In considering claim 5, it is implicit in the teachings of Sumimoto that sequentially moving among processors includes returning to the beginning of the consulted flow schedule upon reaching the end of the consulted flow schedule. See col. 10, lines 16-34.

8. In considering claim 6, Sumimoto teaches a flow schedule based on intrinsic data from the identified processor group. See col. 10, lines 9-13.

9. In considering claim 7, Sumimoto teaches a flow schedule based on at least one of CPU utilization, memory utilization, packet loss, and queue length or buffer occupation of the processors in the identified processor group. See col. 10, lines 9-13.

10. In considering claim 8, Sumimoto teaches receiving the intrinsic data from processors in the identified processor group. See col. 10, lines 9-13.

11. In considering claim 9, Sumimoto teaches receiving data from processors at specified intervals. See col. 12, lines 7-11.

12. In considering claim 10, it is inherent in the teachings of Sumimoto that intrinsic data is filtered in computing the flow schedule. See col. 10, lines 9-13.

13. In considering claim 11, it is implicit in the teachings of Sumimoto that the processors in a processor group include at least one similar application. See col. 6, lines 48-55.

14. In considering claim 12, it is implicit in the teachings of Sumimoto that processors in a processor group can be identically configured. See col. 6, lines 48-55.

15. In considering claim 13, Sumimoto teaches a flow schedule for the processor groups. See col. 10, lines 9-13.

16. In considering claim 14, it is implicit in the teachings of Sumimoto that the processors in a processor group include at least one different application. See col. 6, lines 48-55.

17. In considering claim 15, Sumimoto further teaches providing an initial flow schedule. See col. 10, lines 16-23.

18. In considering claim 16, it is implicit in the teachings of Sumimoto that

identifying a processor group includes identifying an application associated with the

request. See col. 6, lines 1-4.

19. In considering claim 17, Sumimoto teaches consulting a hash table when

identifying a processor group. See col. 10, lines 9-13.

20. In considering claim 18, Sumimoto teaches an apparatus to process a data

flow on a network, comprising: at least one flow processor module having at least one

processor, each such flow processor being associated with at least one corresponding

processor group, at least one network processor module having at least one processor,

and instructions to cause the at least one processor to forward the data flow to at least

one flow processor module capable of processing the data flow, (col. 6, lines 1-4); and,

at least one control processor module in communication with the at least one flow

processor module, and having at least one processor and instructions for causing the at

least one processor to receive intrinsic data from the at least one flow processor

module, (col. 11, lines 20-36).

Although the method taught by Sumimoto shows substantial features of the

claimed invention, if fails to teach: receiving the data flow from the network, and

identifying a processor group hosting at least one application required to process the

data flow.

Nevertheless, in a similar field of endeavor, Colby teaches a method and system for directing a flow between a client and a server comprising: receiving a data flow from a network, (col. 2, lines 48-53); and, identifying if content is fully replicated among servers in a server group, and if not, performing extra steps to handle a request for content from a server in the server group, (col. 7, lines 29-36).

Thus given the teachings of Colby, it would have been apparent to one of ordinary skill in the art to modify the teachings of Sumimoto with Colby to show an interface receiving the data flow from the network and to show identifying a processor group hosting at least one application required to process the data flow. This would enhance the method taught by Sumimoto by allowing multiple users to take advantage of the method by sending their requests and data flows over a network. This also would simplify the functionality of the client devices from which the request would be sent, Colby, col. 3, lines 29-67, and col. 4, lines 1-5. Furthermore, this would have provided an efficient means for servicing the request for the application by bypassing extra steps needed to identify candidate processors, Colby, col. 7, lines 29-36.

21. In considering claim 19, it is implicit in the teachings of Sumimoto that at least one flow processor module includes at least one memory to store at least one application. See col. 6, lines 48-55.

22. In considering claim 20, Sumimoto teaches the at least one control processor

module in communication with the at least one network processor module. See col. 11,

lines 20-36.

23. In considering claim 21, Sumimoto teaches the at least one control processor

module including instructions for causing the at least one processor to compute a flow

schedule for the at least one applications processor group. See col. 11, lines 20-36.

24. In considering claim 22, Sumimoto teaches the intrinsic data including at least

one of CPU utilization, memory utilization, packet loss, and queue length or buffer

occupation. See col. 10, lines 9-13.

25. In considering claim 23, it is implicit in the teachings of Sumimoto that the

control processor modules include at least one filtering module. See col. 11, lines 20-

36.

26. In considering claim 24, Sumimoto teaches the network processor modules

including at least one flow schedule for directing flows to the flow processor modules.

See col. 10, lines 9-13.

27. In considering claim 25, Sumimoto further teaches the network processor

modules including at least one initial flow schedule. See col. 10, lines 16-23.

28. In considering claim 26, Sumimoto teaches the network processor modules further including a hash table to associate a data flow with a flow schedule. See col. 10, lines 9-13.

29. In considering claim 27, it is implicit in the teachings of Sumimoto that the flow schedule further includes a list of flow processor modules. See col. 10, lines 16-23.

30. In considering claim 28, Sumimoto teaches an apparatus for scheduling data flows on a network, comprising: a front-end processor to receive data flows, and at least one applications processor group to process the flows, (col. 6, lines 1-4); at least one flow schedule associated with the at least one applications processor group, (col. 10, lines 9-13); and, instructions to cause the front-end processor to identify, for each of the received data flows at least one applications processor group to process the flow, select at least one processor within the identified processor group, and transfer the flow to the selected processor, (col. 10, lines 16-24).

Although the method taught by Sumimoto shows substantial features of the claimed invention, if fails to teach: receiving the data flow from the network, and identifying a processor group hosting at least one application required to process the data flow.

Nevertheless, in a similar field of endeavor, Colby teaches a method and system for directing a flow between a client and a server comprising: receiving a data flow from

a network, (col. 2, lines 48-53); and, identifying if content is fully replicated among

servers in a server group, and if not, performing extra steps to handle a request for

content from a server in the server group, (col. 7, lines 29-36).

Thus given the teachings of Colby, it would have been apparent to one of

ordinary skill in the art to modify the teachings of Sumimoto with Colby to show an

interface receiving the data flow from the network and to show identifying a processor

group hosting at least one application required to process the data flow. This would

enhance the method taught by Sumimoto by allowing multiple users to take advantage

of the method by sending their requests and data flows over a network. This also would

simplify the functionality of the client devices from which the request would be sent,

Colby, col. 3, lines 29-67, and col. 4, lines 1-5. Furthermore, this would have provided

an efficient means for servicing the request for the application by bypassing extra steps

needed to identify candidate processors, Colby, col. 7, lines 29-36.

31. In considering claim 29, it is implicit in the teachings of Sumimoto that the at

least one flow schedule includes at least one flow vector. See col. 10, lines 9-13.

32. In considering claim 30, Sumimoto teaches at least one control processor to

receive data from the at least one applications processor group. See col. 11, lines 20-

36.

33. In considering claim 31, it is implicit in the teachings of Sumimoto that the control processor includes at least one filter. See col. 11, lines 20-36.

34. In considering claim 32, it is implicit in the teachings of Sumimoto that the applications processor group includes at least one processor. See col. 6, lines 1-4.

35. In considering claim 33, it is implicit in the teachings of Sumimoto that the at least one processor includes at least one memory to store applications. See col. 6, lines 1-4:

36. In considering claim 34, Sumimoto teaches the front-end processor including a hash table for associating a data flow with at least one applications processor group. See col. 10, lines 9-13.

37. Claims 36-38, are rejected under 35 U.S.C. 103(a) as being unpatentable over Sumimoto, in view of Choquier et al. (hereinafter Choquier), U.S. Patent 5,774,668.

38. In considering claim 38, Sumimoto teaches a method for scheduling data flows among at least two processors arranged in at least one processor group, comprising: computing a flow schedule base on historic performance data from the at least two processors, (col. 10, lines 9-34); receiving a request for processing, (col. 6, lines 48-55); identifying a processor group to process the request, the processor group

including at least one processor, (col. 6, lines 1-4); consulting a flow schedule associated with the identified processor group, and, transferring the request to at least one processor in the identified processor group based on the associated flow schedule, (col. 10, lines 9-13).

Although the method taught by Sumimoto shows substantial features of the claimed invention, if fails to expressly teach: in computing a flow schedule, computing a flow schedule associated with the group.

Nevertheless, in a similar field of endeavor, Choquier teaches a system for load-balancing comprising: computing, from performance data taken from a group of servers, an average load of the group of servers (col. 23, line 61 through col. 24, line 14).

Thus given the teachings of Choquier, it would have been apparent to one of ordinary skill in the art to modify the teachings of Sumimoto with Choquier to show computing, from historic performance data taken from the processors, at least one flow schedule associated with at least one processor group. Doing so would have provided a means for computing an efficient flow schedule based on the performance of the processors as a group, Choquier, col. 23, lines 30-51.

39. In considering claim 36, Sumimoto teaches providing data for at least one of CPU utilization, memory utilization, packet loss, and queue length or buffer occupation of the processors in the identified processor group. See col. 10, lines 9-13.

40. In considering claim 37, Sumimoto teaches providing presently existing data for at least one of CPU utilization, memory utilization, packet loss, and queue length or buffer occupation of the processors in the identified processor group see col. 10, lines 9-13.

Conclusion

1. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

2. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Bradshaw, Jr. et al., U.S. Patent 6,279,028: discloses a method of correlating a

group of related processes residing on separate computers of a computer network.

Bainbridge et al., U.S. Patent 6,014,700: discloses a method for performing

workload management in a client/server environment wherein an object reference is

formed based on a service request; the object reference including an identifier for

identifying a server group.

3. Any inquiry concerning this communication or earlier communications from

the examiner should be directed to Hassan Phillips whose telephone number is (571)

272-3940. The examiner can normally be reached on M-F 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Zarni Maung can be reached on (571) 272-3939. The fax phone number for

the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the

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published applications may be obtained from either Private PAIR or Public PAIR.

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For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

ZARNI MAUNG
SUPERVISORY PATENT EXAMINER